Erasmus+

LICEUL NAȚIONAL DE ARTĂ INFORMATICĂ

Sowing Change (SCH):Roots for Inclusion
and Self-Knowledge through a Sustainable European Nature





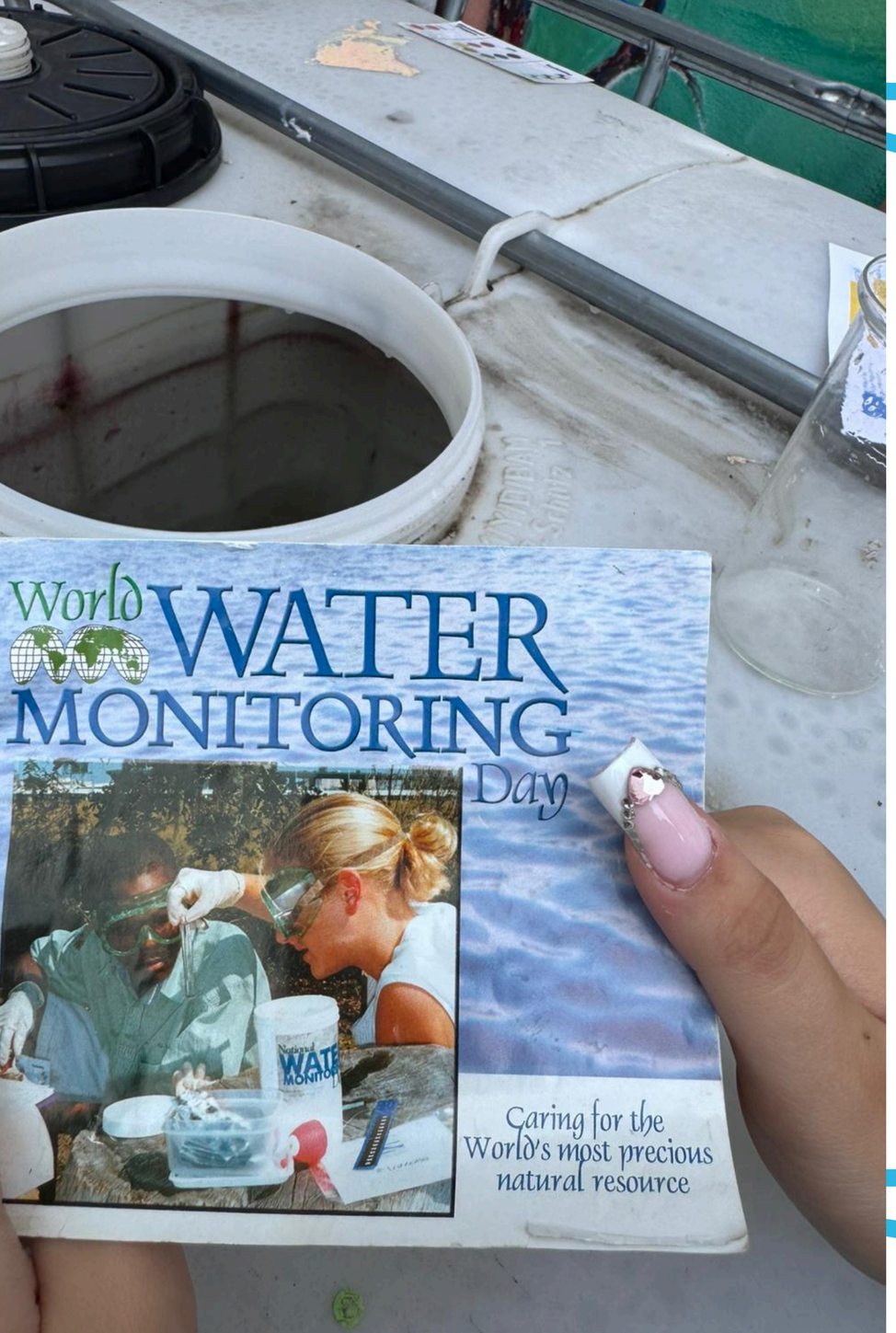
Water quality analysis

eTwinning

2025- 2026

Project agreement number: 2024-1-ES01-KA220 -SCH-000245566

Co-funded by the Erasmus+ Programme of the European Union



As part of the Erasmus+ KA220 project, 7th grade students, under the guidance of their chemistry teacher, determined the parameters of the water collected in the schoolyard reservoir using a special analysis kit.



Students had the opportunity to apply the concepts studied in class in practice and understand the importance of monitoring water resources

Activity organizer: Lavinia Bundik

Chemistry teacher: Liliana Lupșa

Step 1:

Discussion on the role of water quality monitoring for health, agriculture and environmental protection.
Presentation of the parameters to be analyzed.



Step 2:

Water sampling
Collecting water from the water tank in the school yard.
Following sampling rules to avoid sample contamination.

Step 3:

Preparing materials
Organizing the analysis kit.
Preparing containers and measuring equipment.
Dividing students into teams and distributing tasks.

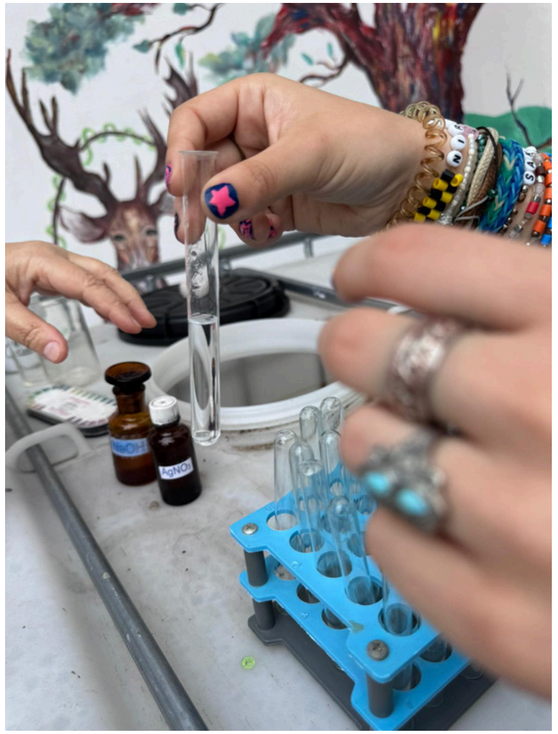






Participants:
Sebastian Mocan,
Ioana Șeran
Marian Pișcociu
Andra Nechifor
Amalia Erceanu
Giulia Drăucean

Organized in teams, the students determined a series of essential water quality parameters: pH, turbidity, nitrate and phosphate concentrations, dissolved oxygen levels, as well as other indicators of chemical composition. They also discussed methods for identifying possible microbiological contamination and the role of periodic analyses in maintaining a healthy environment.







Step 4: Determination of physicochemical parameters



Students performed measurements for:

pH;

turbidity;

dissolved oxygen;

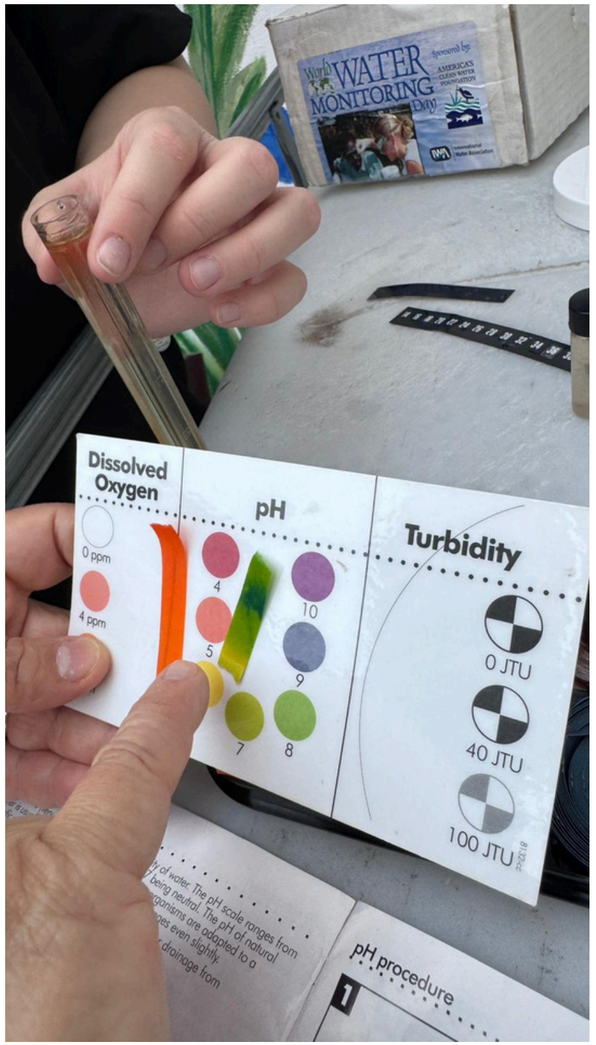
nitrates (NO_3^-);

phosphates (PO_4^{3-});

other indicators available in the analysis kit.




pH
Turbidity
0 JTU
40 JTU
100 JTU
pH procedure


World WATER MONITORING Day
Dissolved Oxygen
0 ppm
4 ppm
pH
Turbidity
0 JTU
40 JTU
100 JTU
pH procedure
1



Step 5: Observation of microbiological quality

Discussions on methods for identifying bacteria in water.
Interpretation of available test results and the importance of microbiological monitoring.





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During the activity, the students learned to correctly use the equipment and analysis kits, to compare the results obtained with the reference values and to interpret the data from a scientific perspective. The activity gave them a clear picture of how each parameter influences the quality of water and, implicitly, the life of plants, animals and humans.



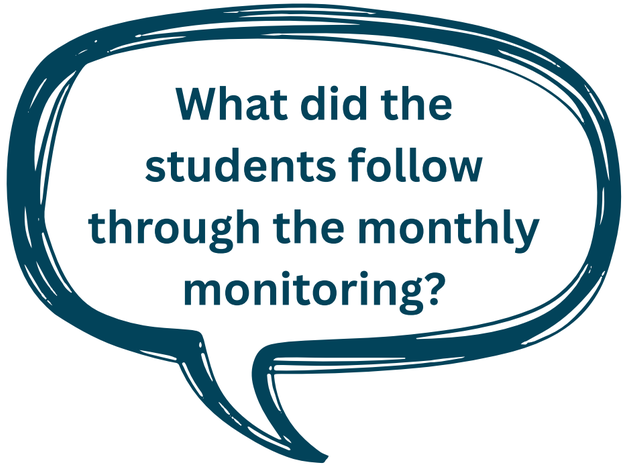
The atmosphere was full of enthusiasm, curiosity and collaboration. The smiles, questions and desire to discover made this outdoor lesson one of the most appreciated experiences of the project.

Repeating the measurements monthly, over the two years, had an important educational and scientific value. The students did not just make isolated measurements, but followed the evolution of water quality over time and learned to interpret data.









- **The evolution of water parameters over time, observing whether the values remain constant or register seasonal variations.**
- **The influence of seasons on water quality (temperature, precipitation, drought periods).**
- **The stability of pH and the identification of possible changes caused by environmental factors.**
- **The variation of the dissolved oxygen level, influenced by temperature and biological activity.**
- **The change in nitrate and phosphate concentrations, which may indicate the intake of nutrients from the soil or other sources.**
- **Changes in turbidity, determined by precipitation, dust or suspended particles.**
- **Maintaining the water quality in the tank and identifying any problems that would require intervention.**



Monthly monitoring of water parameters transformed the activity into a genuine school research project. Students observed that the environment is constantly changing and that periodic water analysis provides valuable information about the ecosystem's condition. This approach fostered their critical thinking, powers of observation, and scientific inquiry skills, demonstrating the importance of systematic data collection for environmental protection and the adoption of sustainable practices.

Water quality measurement

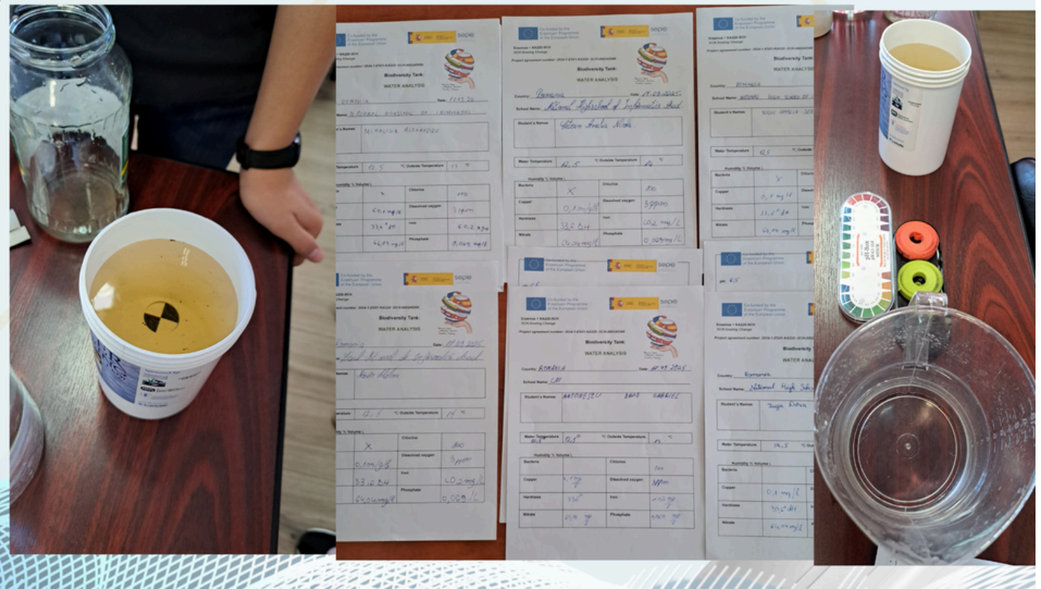








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